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ANCIENT MILITARY PORT AT KITION

The history of the ancient city of Kition,¹ now Larnaca, cannot be distinguished from that of its port and maritime characteristics. At all times, the history of this town was marked by commercial activities since Kition-Larnaca, a maritime site, was a major port of call in international communications and merchant shipping in eastern Mediterranean. The port of Kition however played a major role in military operations at several times in its history; the classical period happens to be one of this particular periods. I will not deal in this article with the trade activities of Kition nor with its role as a transit place, since I have already done so,² but with the remarkable military installations that the French mission in Larnaca (site of Bamboula) had the good luck to discover and explore.

During the last ten years the French mission concentrated its search on the military port of Larnaca and discovered the remains of a building alongside the ancient basin (Pl. XXXII:1). North to the sanctuary of Herakles-Melqart and Astarte, excavated by the French mission between 1976 and 1990,³ monumental remains appeared in 1987 at the foot of the great terrace wall which lined the courtyard of the classical sanctuary: we interpret them as the south part of the ship-sheds (νεώκλα) which were used in the ivth century BC to shelter the triremes of the royal fleet of Kition.⁴

Several seasons were needed to reconstruct the plan and organisation of the western part of the the building. The northern limit of the building was reached in 1998, asserting the precise length of the boxes and thus the length of the ships: the length of the ship-shed in the north/south direction is now established and it is possible to reconstitute the general aspect of the *neoria* which lined the port basin in the classical period, and to propose a definitive restitution.

The archaeological remains were badly preserved since the ancient port site, which is now located 400 meters from the sea, was used as a quarry over the centuries; it is now covered by tennis courts and the street network of Larnaca.

1. The French mission (Université Lyon 2) has been carrying out excavations in the ancient town and territory of Kition in Larnaca, site of Bamboula, since 1976 (see reports published yearly in "Chronique ... Chypre" of the *BCH* since 1977). I wish to thank all the people in charge of the Department of Antiquities of Cyprus as well as the town authorities of Larnaca for having helped us since the beginning of the excavations; and I am indebted to C. Rougemont for the translation.
2. M. Yon, "Kition et la mer à l'époque classique et hellénistique", *Proceedings of the International Symposium "Cyprus and the sea" Nicosia 1993*, Nicosia 1995, p. 119-130; "Le royaume maritime de Kition. Travaux 1988-1990", *Actes du IIF Congrès International des Études Phéniciennes et Puniques, Tunis 1991*, Tunis 1998, p. 449-457.
3. See our reports *BCH* (note 1) 1977-1991, and also our "Mission archéologique française de Kition-Bamboula 1976-1984", *Archaeology in Cyprus 1960-1985*, Nicosie 1985, p. 219-226; Y. Calvet, "Kition, French expedition", *Kinyras, French Archaeology in Cyprus*, M. Yon ed., Lyon 1993, p. 107-138.
4. For the building of the port, see our reports in *BCH* since 1988; and our article "Les hangars du port de Kition", *Syria* 77, 2000, in press.

The natural changes of the coast-line, which were accelerated by the rearrangements of the port in the Roman period, by the more recent work (1880) of the British administration and lastly by the development of the town during the last few years, led to the disappearance of the contours of the port basin and of the channel which led to it from the sea. The progress of the excavations is moreover slowed down by a high water-table of brackish water, the altitude of which varies depending on the year and season (from 1 m to 1,80 m of absolute altitude). This water-table drowns the lower part (north) of the architectural rests of the ship-sheds, and water had to be pumped everyday to progress.

This water-table restricted the excavation work to small soundings which could be emptied each day by pumping: assuming a regular pattern for the bases of the pillars placed in north/south lines (every 5 meters, see below) and east/west rows (6 meters apart from axis to axis) it was possible to locate their supposed location at their intersection. Despite their poor state of conservation – we sometimes only found the robber trenches of their foundations walls left after Roman reoccupation – the number of bases we were able to identify was sufficient for us to reconstruct the plan (Pl. XXXII:2).

Architectural rests

The *neoria* can be reconstructed today as a large building; its inner space is divided into parallel north-oriented compartments or boxes (ship-sheds), each box sheltering a slip-way (or “ramp”) sloping down towards the port basin: the ships of the fleet were pulled out of the basin and placed on the slip-ways.

The excavations of the last few years unearthed the western part of the building on 40 meters approximately in a west/east direction; the north/south dimension (length of the boxes) was assessed at about 38 to 40 meters. The total surface excavated is above to 1500 m²; six boxes have been recovered.

A large terrace wall (432) 0,80 meters thick forms the southern limit; it lines the courtyard of the classical sanctuary on one side and serves as the rear wall of the *neoria* on the other side (Pl. XXXIII:1). Large buttresses support it on both sides: to the south, the buttresses are grounded into the filling of the courtyard; to the north, where the floor of the ship-sheds is nearly three meters lower, they are aligned with the bases of the pillars delineating the boxes. To the west the wall 432 is preserved up to three meters high, and is more and more destroyed going towards the east. It was possible to follow it for about 40 meters. Alongside the wall was a corridor along the heads of the slip-ways; three low steps led to the floor of the boxes themselves.

The west wall of the building is not preserved. Parts of its foundations were found and its layout can partly be reconstituted for approximately 20 meters north-south line and traces left by of the pulling out of blocks have been identified.

The water of the port basin made the north limit of the building. The analysis of the soil samples taken at the base of the seventh pillar (801) found in 1998 showed that this row of bases rested on the beach directly in contact with the ancient sea level.

The eastern part of the building has entirely disappeared beyond slip-way 459: there is no saying how it ended nor how many boxes may have existed. The building however presents a repetitive architectural structure, made up of parallel units (formed by one box and one slip-way); it was thus possible to juxtapose as much of these units as desired. The sixth slip-way that we discovered (459) is delineated to the east by yet another line of pillars (453, 474) and not by a wall: the east of the building was somewhere further

and this box is not the last one on this side. However these six boxes are sufficient to allow a preliminary analysis and interpretation of the structure of the building, even though we do not know how far it extended to the east.

Boxes and pillar bases

The inside of the building is divided into parallel boxes ca. 38 meters long and 6 meters width. Six of these boxes have been recovered. They are formed by north-south lines of short low walls 2.5 meter long serving as bases (Pl. XXXIII:2) built in the axis of the buttresses of the terrace wall 432. These bases supported wood pillars, supporting a roof covered with large flat tiles. Numerous fragments of tiles were found during the excavation; those are the tiles of the classical period on which traces of red paint can still be found.

The lines are distant of 6 meters (from axis to axis); the bases are 0.80 meters thick. The boxes were thus 5.20 meters large (large enough to shelter a trireme). The length of the boxes is also known: adding the two-meter large passage-way alongside wall 432, the north-south length is approximately 38 meters: this accords approximately to the expected length (for a trireme of Athenian type).

Slip-ways

The slip-ways, built in the central axis of the boxes, sloping down towards the port to the north, were designed to store the ships when they had to be pulled out of the sea.

In their initial phase (phase 1), only 10 to 11 meters of these 1.80 meter large slip-ways were built⁵ with a 13 % gradient slope. The north end of the slip-way followed a gentler slope directly upon the beach. Beams were placed along the length the slip-ways to support the wooden devices designed to pull the ships out of the sea.

In the second phase (phase 2), the south part of the built slip-ways was enlarged and lengthened to approximately 20 meters with a steeper slope. They are made-up of rubble stones, unbaked bricks and a filling of mud and stones.

A last phase (phase 3) has been recognised at least for the western box (slip-way 731): the slope was sharply accentuated to the south. The top of the phase 2 slip-way was cut into by the retaining structure of phase 3 (Pl. XXXIV:1), made up of several courses of large squarish unbaked bricks (45 x 40 cm approx.) 14 cm thick. This slip-way connected the ground level of the ship-shed to the ground level of the sacred courtyard which was probably also the level of the external public space on that side of the town. The partial destruction of the other slip-ways located further to the east, very close to the surface of the modern ground level, make it impossible to know whether all the slip-ways of the building or only the most western ones have been similarly transformed.

5. Measurements of slip-way ("ramp") 491 in 1993 (BCH 118, 1994, p. 674).

Interpretation of the building

Our interpretation which has served as a basis for the strategy of our excavation relies particularly on a comparison with Piraeus, where it is rumored that, in the classical period, several hundreds of such trireme boxes of a very similar structure to that of the ship-sheds of Kition were built. Such slip-ways were identified at other sites: significant rests were discovered in Oeniadaï in western Greece, in Rhodes, in Apollonia in the Cyrenaic region, etc. for the eastern Mediterranean. The circular harbour with its central islet (κόθων) at Carthage,⁶ known in a Hellenistic phase (more recent phase than that at Kition), is another good comparison for the western Mediterranean.

The rests of the *neoria* built in the Vth century in Piraeus are the most relevant for Kition: they probably served as model for other constructions of the same type in the Mediterranean. The excavations at Piraeus in 1885⁷ revealed a group of about ten slip-ways in the eastern part of the basin of Zea. A rear wall and the rests of ramps sloping down towards the water of the port, separated by lines of square bases which supported pillars, can still be seen in the cellar of a building on the modern shore. The complex, which was about 37 meters long when it was discovered, may have been longer in antiquity because of a slight rise in the level of the sea: the estimated length was of approximately 40 meters. The usable distance between the pillars is slightly under six meters; the slope of the visible part of the slip-ways is a 10% gradient slope. The modern model in the Zea Museum shows a building made up of parallel boxes equipped with slip-ways sloping down towards the sea: the slip-ways are covered with roofs supported by rows of pillars alternating with slip-ways.

Our reconstruction is also inspired by the *Olympias*, the Athenian trireme recently built by British scholars and launched in Piraeus for real scale navigation trials.⁸ The restitution of the *neoria* of Kition⁹ on the basis of the rests discovered during the excavations accords with the model of Piraeus; the length of the slip-ways accords with the measurements of the Athenian trireme determined on the basis of archaeological and epigraphical evidence. The function of the various elements uncovered is clear: the slip-ways placed within the boxes were designed for the storage of the ships once pulled out of the sea, to protect the wood from sun and rain in a well aired building. Wooden devices used to pull the ships out of the water and to moor them solidly were also present. The ships for which the building was erected were probably triremes of Greek type.

6. Cf. H. Hurst, "Le port militaire de Carthage", in *Dossiers d'Archéologie* "Marine antique", n° 183, juin 1993, p. 42-51, and previous bibliography.
7. I. Dragatsis & W. Dörpfeld, "Ἐχθειςὶς περὶ τῶν ἐν Πειραιεὶ ἀνασκαφῶν", *Πρακτικά*, 1885, p. 64-68; cf. D. Blackman, "Les cales à bateaux", in *Dossiers* 1993 (see note 6), p. 32-39 and previous references; cf. p. 32 scale model of the Marina museum of Zea (Piraeus).
8. Cf. J. Morrison, "Olympias, une trière athénienne", *Dossiers* 1993 (see note 6), p. 16-23. Cf. J. Morrison J. & J. F. Coates, *The Athenian trireme*, Cambridge 1986.
9. Definitive restitution in M. Yon, "Les hangars du port classique", *Syria* 77, 2000, fig. 11. In the provisional reconstruction proposed in 1993 (see M. Yon, in *Dossiers* 1993 [note 6], p. 40-41: cleared length approx. 15 meters) and then in 1997 (O. Callot, "Les hangars du port de Kition", *Res maritimae*, Atlanta 1997, p. 74, fig. 6-79, cleared length 25 meters), before the excavations reveal the last bases which gave the real length (approx. 38 meters), the length of the boxes and ships have to be changed.

Chronology

The stratigraphy revealed at least two phases of use (phases 1 and 2), and a third phase (phase 3) is witnessed at least for the south-west part. The analysis we have made so far and the indications given by the pottery show that the three phases of building and the changes or rearrangement of the ship-sheds took place over approximately one century.

The construction phase (phase 1) dates to the end of the Vth century. The building was probably used during all of the first quarter of the IVth century. It may be assumed that this was the harbour which sheltered the victorious fleet of Milkyaton, "King of Kition and Idalion", who won a naval battle over the Salaminian party in 392 BC; it was probably in order to immortalise his victory that Milkyaton erected a "trophy" in the port; the base of this "trophy", bearing a Phoenician inscription (Pl. XXXIV:2) was discovered in 1991 in Larnaca.¹⁰

The refection of phase 2 probably took place ca. 375, under the reign of Milkyaton, who seems to have been a great administrator and builder: he commissioned several large urban projects such as the rebuilding of the sanctuary at Bamboula, and the digging of a monumental underground sewage system.¹¹ The transformation of the slip-ways may be due to a modification of the sea level; it may also be due to a technical improvement (in the type or length of the ships? or merely in the techniques of towing?).

The changes of phase 3 observed on slip-way 731 (Pl. XXXIV:1) probably took place ca. 300; it is still impossible to say whether it took place before or after the installation of the Ptolemaic power over the island, and before or after the time when the building lost its military use. In Kition, the conquest of Cyprus by Ptolemy I at the end of the IVth century led in Kition to the death of the old king Pumayaton¹² in 310 and to the destruction of the buildings which symbolised his power: the sanctuary of Melqart-Herakles, protector of the royal dynasty, and the naval fortification with the ship-sheds which had sheltered the royal fleet. Whatever the reason, from the IIIrd century onward, the basin had no military function anymore; it was used for the docking of merchant ships: there was a great commercial activity there, notably during the Roman period. The spectacular amount of pottery discovered in the basin – commercial amphora and *sigillata* imported from Spain, Egypt, Syria, Samos or other places (eastern and western Mediterranean)¹³ – gives an idea of the size of these activities.

Conclusion

The model of naval architecture invented by the Athenians at Piraeus in the Vth century BC was to know a long posterity. A number of other ship-sheds of the same type of architecture have been erected from this date on in Cyprus as well as in other military ports in the Mediterranean; most of them howev-

10. M. Yon & M. Sznycer, "A trophy of victory at Kition", *RDAC* 1992, p. 156-165. Concerning the reign of Milkyaton, cf. our article "Les derniers rois phéniciens de Kition", *Studi in onore di S. Moscati*, Pisa-Roma 1996, I, p. 441-450.

11. J.-F. Salles, *Kition-Bamboula II, Les Égouts de la ville classique*, Paris 1984; M. Yon, "Le royaume de Kition, 2. Époque classique", *Studia Phoenicia* IX, 1992, Louvain-la-Neuve, p. 243-260.

12. On this king, son of Milkyaton, and his reign, which lasted half a century (362-310 BC) see "Les derniers rois phéniciens de Kition", 1996 (note 10).

13. This pottery material is currently under study: see our reports of 1998 and 1999 in *BCH* (note 1).

er have disappeared, or have been destroyed or metamorphosed by their reuse as shelter for merchants vessels or fishing boats. The building of Kition is remarkable because of its good state of conservation. It shows that, in classical period, such advance in technology at the basis of a naval superiority did not remain in the exclusive possession of the Athenian maritime power. It seems that it was rapidly widespread. The king of Kition had important financial means and sufficient power to impose on the city such a technical improvement; he had no hesitation about completely reorganising the public space, by redrawing the layout of the city, suppressing a street and rebuilding the age-old sanctuary of Herakles-Melqart and Astarte, in order to erect this monumental complex for the royal fleet.

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ΠΕΡΙΛΗΨΗ

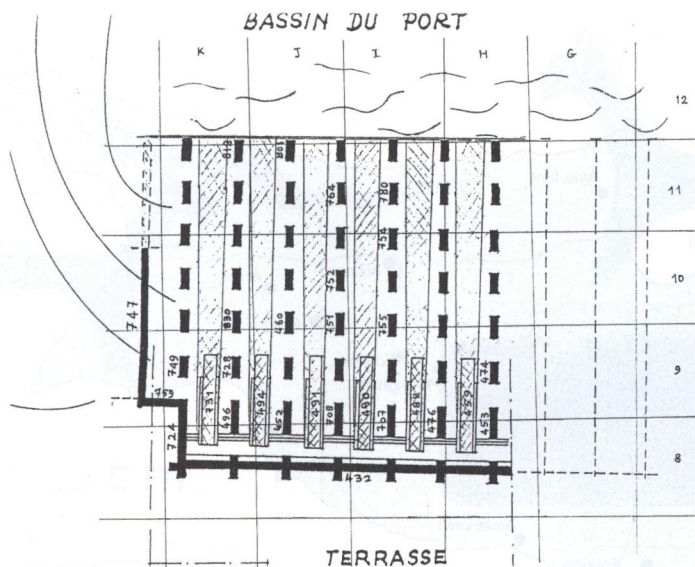
Η γαλλική αρχαιολογική αποστολή στο Κίτιο ανασκάπτει κοντά στο ιερό της Αστάρτης και του Μέλκαρτ (τοποθεσία Παμπούλα) το αρχαίο λιμάνι με τα υπόστεγά του της κλασικής περιόδου που χρησιμοποιεiu για τα πολεμικά πλοία του βασιλικού ναυτικού.

Τα νεώρια αυτά μπορούν σήμερα να αποκατασταθούν ως ένα μεγάλο κτίριο, ο εσωτερικός χώρος του οποίου είναι διαχωρισμένος σε ορθογώνια υπόστεγα πλοίων με προσανατολισμό προς τα βόρεια. Αυτά καλύπτονται με κεραμιδένιες στέγες και κάθε υπόστεγο προστάτευε την κατωφερική ράμπα πάνω στην οποία γλιστρούσε το πλοίο προς τη μεριά των νερών του λιμανιού, το οποίο σήμερα βρίσκεται σε απόσταση περίπου τετρακόσιων μέτρων από την ακτή. Τα πλοία του στόλου σύρονταν έξω από τα νερά του λιμανιού και τοποθετούνταν στις γλιστερές ράμπες. Έξι τέτοια ορθογώνια υπόστεγα έχουν ανασκαφεί. Το βορινό όριο του κτιρίου εντοπίστηκε το 1998. Το μήκος των σαράντα περίπου μέτρων μαρτυρεί για τη χρήση τριήρων της ίδιας μορφής με τις αθηναϊκές. Αρχαιολογική μαρτυρία πιστοποιεί πως η τοποθεσία ήταν πολεμικό λιμάνι κατά την κλασική περίοδο μέχρι και το χάσιμο της ανεξαρτησίας των κυπριακών βασιλείων που συνέβη προς το τέλος του 4ου π.Χ. αιώνα.



1. Kition. The neoria seen from the north. 1999.

The remains of the archaic sanctuary at the background were covered by the terrace of the classical period.



2.. Kition: schematic plan of the ship-sheds of the military port. 1999.



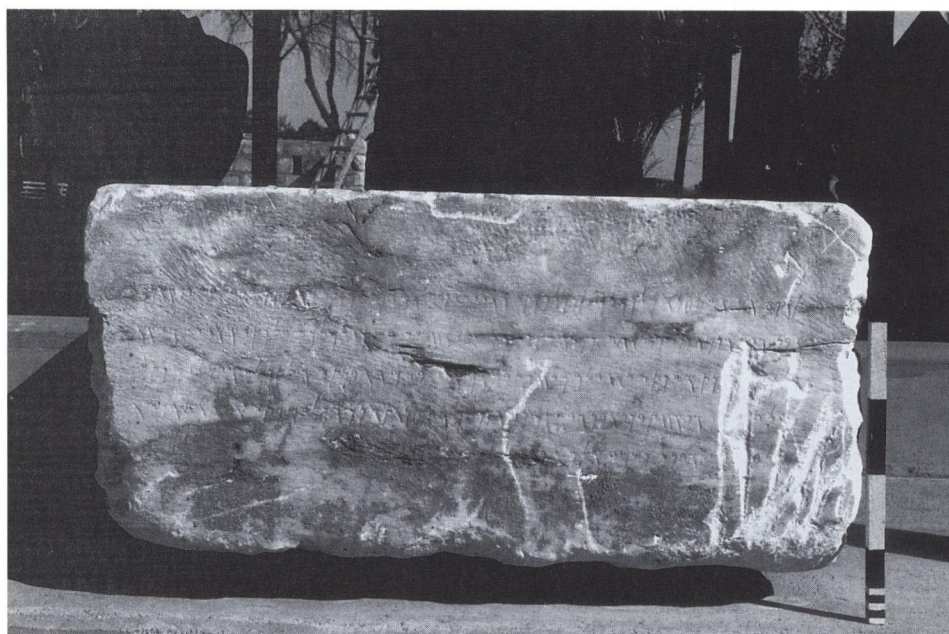
1. Kition. The neoria seen from the east (left: terrace wall 432). 1999.



2. Kition. Base of the pillar 728. 1999.



1. Kition. South-west corner of the neoria. 1999
 Northern part of slip-way 731 seen from the south-west : phases 2 and 3.



2. Kition. Base of the trophy of the king Milkyaton with inscription in Phoenician, 392 BC.
 Museum of Larnaca MLA 1513.